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EXAMINER

AGGARWAL, YOGESH K

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| ART UNIT | PAPER NUMBER |
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2615

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/834,165 | Applicant(s) TANAKA ET AL | |
| | Examiner Yogesh K. Aggarwal | Art Unit 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-42 is/are pending in the application.
- 4a) Of the above claim(s) 32-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 06/17/2005 have been fully considered but they are not persuasive.

Examiner's response:

2. Applicant argues w.r.t claim 25 that Miller discloses that when ambient luminance increases, the luminance of the display should also be increased. That is, the brightness of the display is adjusted in the same direction as a change in environmental light. See column 1, lines 39-56. See also, column 2, lines 46-54, wherein the equation clearly shows that brightness of the display ($\log(L_d)$) increases as environmental light ($\log(I)$) increases. Clearly, Miller discloses the opposite of what is claimed. The Examiner respectfully disagrees.

3. The equation shown in $\log(L_d)$ refers to a display luminance and is a well-known fact and has been known to researchers as stated by Miller (col. 2 lines 46-58). This equation is not what is taught in col. 2 lines 8-18 and figure 3, wherein it is clearly shown in figure 3 that **relative brightness of image elements** as a function of their relative luminances for an **average, dim, and darkly illuminated surround** is shown as **increasing** for a particular value of relative luminance as the surround light decreases from average to dark. Therefore relative brightness of image elements increases as the environment light decreases which clearly reads on the claim "decreases brightness of an image displayed on said display as brightness of said environment light increases". Miller also states in col. 1 lines 34-36 that contrast is defined as the rate of change of the brightness of image elements as function of the relative luminance of the same elements in the original scene. Miller further teaches that perceived image contrast increases with increasing surround luminance and decreases with decreasing surround luminance (col. 2 lines

Art Unit: 2615

12-18) which reads on the recited claim limitations “wherein said corrector increases contrast in an image displayed on said display as brightness of said environment light increases”.

4. Applicant further argues that Fig. 3 shows what a viewer would perceive as an increase in image contrast with increasing surround luminance. See column 2, lines 15-18. Fig. 3 does not relate to image correction. The Examiner respectfully disagrees. Miller teaches that it is an object of the invention to provide an apparatus and method of dynamically modifying both the luminance and contrast of an image as it is displayed on a display unit in response to changing light conditions (col. 2 lines 59-63). Therefore Miller provides a microprocessor (18) as shown in figure 4, which responds to a surround luminance sensor (16) and changes the brightness of the display device via a display controller. Therefore microprocessor (18) is read as an image corrector.

5. Applicant argues that with respect to Official Notice, the Examiner has not presented grounds showing that it is notoriously well known to have a detector detecting brightness of environmental light based on sensitivity of the image pick-up device. Sharman et al. (US Patent # 5,045,932) discloses a luminance sensor 30 having a signal level that depends from the wide spectral response of the luminance sensitivity function to which it is responsive (col. 3 line 67- col. 4 line 5). Also shown in figure 1, the luminance sensor 30 is separate from the color sensor 28.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2615

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 25, 26 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Miller et al. (US Patent # 6,411,306).

[Claim 25]

Miller et al. teaches an electronic camera (figure 4) having an automatic luminance and contrast display function for a display device (22) for displaying an image of a subject (col. 4 lines 30-34), a detector (16) for detecting environment light (col. 4 lines 34-38) and a corrector (18) for correcting an image displayed on said display by changing a display characteristic of the image displayed on said display in accordance with a state of the environment light detected by said detector (col. 4 lines 34-41). Miller et al. further teaches that the corrector (18) increases contrast in an image displayed on-said display (col. 2 lines 8-18, figure 3) and decreases brightness (relative brightness on Y-axis) of an image displayed on said display as brightness of said environment light increases (The brightness of surround environment light increases as shown in figure 3 from DARK, DIM to AVERAGE while the relative brightness on Y-axis of the display device decreases).

[Claim 26]

The Examiner notes that an ocular (broadly read as a lens device) is inherently present on any display device in order to visually recognize the image by the user.

[Claim 28]

Miller teaches that the detector (16) is different from said image pickup device (figure 4, element 12).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US Patent # 6,411,306) in view of Sharman et al. (US Patent # 5,045,932).

[Claim 27]

Miller et al. teach an image pick-up device (12) for capturing an image of the subject (col. 4 lines 30-31). Miller also teaches that the detector (16) detects brightness of environment light from exposure time and incident light amount (col. 6 lines 21-28, figures 1 and 2).

Miller does not specifically teach that the detector detects brightness of environment light from sensitivity of said image pick-up device. However Sharman discloses a luminance sensor 30 having a signal level that depends from the wide spectral response of the luminance sensitivity function to which it is responsive (col. 3 line 67-col. 4 line 5).

Therefore taking the combined teachings of Miller and Sharman, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a detector detecting brightness of environment light based upon sensitivity of said image pick-up device in order to have a more accurate measurement of the brightness of the ambient light.

10. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (US Patent # 6,411,306) in view of Lee et al. (US PG-PUB # 2003/0043299).

[Claim 29]

Art Unit: 2615

Miller et al. teaches an electronic camera (figure 4) having an automatic luminance and contrast display function for a display device (22) for displaying an image of a subject (col. 4 lines 30-34), a detector (16) for detecting environment light (col. 4 lines 34-38) and a corrector (18) for correcting an image displayed on said display by changing a display characteristic of the image displayed on said display in accordance with a state of the environment light detected by said detector (col. 4 lines 34-41).

Miller fails to teach wherein the corrector is used to change the hue of said display device in the direction of the environment light. However Lee et al. teach a video compensation technique for a display device (Paragraph 52) wherein based upon the ratio of stored color signal and recently computed color signal component (read as changing hue of the environment light wherein hue as described in Applicant's specification Paragraph 120, changing the relative relations of the gains in standard state, the white balance or hue can be changed), the hue of the display device can be changed as shown in steps S117 and S118 (Paragraphs 53-56, figure 7A) in order to change the hue of the display as the hue of the environment light changes.

Therefore taking the combined teachings of Miller and Lee, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a corrector that is used to change the hue of said display device in the direction of the environment light. The benefit of doing so would be so that any viewer can enjoy a quality picture irrespective of the surrounding light variations as taught in Lee (Paragraph 57).

[Claim 30]

The Examiner notes that an ocular (broadly read as a lens device) is inherently present on any display device in order to visually recognize the image by the user.

Art Unit: 2615

[Claim 31]

Lee et al. teach that the microcomputer 30 performs white balance on the RGB data received by the RGB sensor 10, and sets a control data and white balance based upon the surrounding light level (Paragraph 10).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2615

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA

August 26, 2005



DAVID L. OMETZ
SUPERVISORY PATENT
EXAMINER